Marine Mammal Response on the Texas Coast

Role of the Texas Marine Mammal Stranding Network in Response, Rehabilitation and Research

Oil spill response, assessment and restoration: Marine Mammals, Galveston, TX  29 March 2018
Texas Marine Mammal Stranding Network (TMMSN)

- Created in 1980 to further the understanding of marine mammals
- Non-profit 501C3
- Sole Stranding Agreement holder in Texas
  - Other organizations such as SeaWorld of Texas and Texas State Aquarium operate as designees under the TMMSN agreement for stranding response
  - Collaborates with state and federal agencies for enforcement and response during natural disasters and anthropogenic conflict
  - Trained specialized teams of volunteers and limited staff
Primary TMMSN Objectives

- Respond to marine mammal strandings
  - Provide care for live stranded marine mammals
  - Perform necropsies and collect biological samples from deceased animals for scientific research
- Maintain a long term dataset for baseline comparative to assess marine mammal health trends
- Conduct photo-ID surveys for population monitoring and cataloguing
- Assess human induced injury or mortality for conservation management
- Collaborate with researchers to publish findings from stranded marine mammals and population surveys for the advancement of marine mammal science
Covering the Texas Coastline – TMMSN Designated Regions

Centralized TMMSN stranding hotline:
1-800-9-MAMMAL

Designated TMMSN regional coordinator and a cache of equipment for response within each region
TMMSN Primary Rehab and Research Center in Galveston
Responding to a Spill

Photo credit: US Coast Guard
Texas City Y Spill

- Barge collision on March 22, 2014
- 168,000 gallons bunker fuel oil
- Affected large portion of Texas coast
  - Heightened marine mammal response as far south as Padre Island National Seashore
Assessment

• Aerial surveys – NOAA and/or TMMSN observers
• Boat Based Surveys
  • Collaborative effort with area researchers working under NOAA permit for dolphin research
  • Ship channel closed for four days, survey efforts approved after two days
• Land Based Surveys
  • Texas A&M University at Galveston (TAMUG) had seasonal data from systematic land based scans one year prior
  • TMMSN worked closely with SCAT teams and many local agencies for coverage as well as spill event volunteers
Incident Command System (ICS) Integration

- TMMSN provided a marine mammal representative at the Wildlife Branch until a NOAA representative arrived.
- Worked with ICP for additional equipment and necessary supplies.
- Wildlife hotline established at ICP - funneled marine mammal reports to TMMSN response teams.
  - Helpful to have responders familiar with the area.
Response

Care for live oiled marine mammals

- Primary Rehab Center- TMMSN Galveston
- Texas State Aquarium Sea Lab- Corpus Christi
- Requires experienced marine mammal handlers
- HAZWOPER teams already in place at facilities
- Attending marine mammal veterinarian

Dead stranded marine mammals

- Sample and report according to NOAA sampling protocol
  - Visible and non-visible oiling
- Carcass & sample preservation - COC
- Photographs and data records - COC
- HAZWOPER teams in place
- Attending veterinarian & staff trained in advanced sampling techniques
Post Event

- NRDA Sampling – Step-down sampling protocol for stranded animals also continues post event for monitoring and assessment

- Sample Analysis – Priority cases identified and shipped for analysis once funding was secured

- Data Analysis – Review of historical data and stranding occurrences from the event
  - TCY Spill overlapped with TMMSN stranding season
Research

• Although Texas was not included in the Northern Gulf Bottlenose Dolphin Unusual Mortality Event investigation following DWH, TMMSN contributed to:


• Important to continue population monitoring as long-term health effects may occur
Research Cont.

• Updating abundance estimates of bottlenose dolphins in Texas coastal and inshore waters
• Developing Texas Photo ID catalog for bottlenose dolphins – including historical images
Research

- Collaborative effort between TMMSN, NOAA and TAMUG 2014-
Current
- Survey areas to date using photo-ID capture mark-recapture (CMR):
  - Galveston Bay
  - West Bay
  - Sabine Lake
  - East Matagorda Bay
  - Lower Laguna Madre
- Distribution patterns, movements, life history and habitat use
- Better informed for management of species
  - Better understand impact from stranding events, natural and anthropogenic disasters
Recent Presentations & Publications (2017-2018)


Restoration

How do we restore marine mammals?

- Mitigation of interaction with commercial and recreational fishing gear
- Identify and reduce impacts from noise
- Reduce illegal feeding and harassment
- Increased understanding of causes of marine mammal illness and death

What it will require:

- Enhanced capacity for stranding response organizations
- Independent researchers working collaboratively
- Increased awareness by means of enhanced education programs
Summary

Stranding networks play an important role in marine mammal response, data collection and research. Important for management to prioritize enhancement of stranding response organizations in order to:

• Increase survival of live stranded animals
• Monitor for emerging diseases and health trends
• Improve understanding of population threats from future events